Amendments to Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for removing from a patient's blood ~~a specific plasma fraction~~ ~~containing~~ substances within a specific molecular weight range, the method comprising the steps of:

(a) attaching to the blood stream of the patient a blood perfusion ~~means~~ circuit for extracorporeal blood circulation, the ~~blood perfusion means~~ circuit comprising a selective ~~filtration means~~ filter;

(b) removing blood from the blood stream of the patient, and conveying the blood extracorporeally to the selective ~~filtration means~~ filter;

(c) filtering the blood with the selective ~~filtration means~~ filter, the selective ~~filtration means~~ filter comprising a spinning loop separator and being adapted for removing ~~the~~ a specific plasma fraction , having an upper bound ranging from 60 kDa to 200 kDa, from the blood, at a first rate of about 1 to about 20 mL/min for a period of about 1 to about 24 hours;

(d) returning the filtered blood to the patient, minus the specific plasma fraction; and

(e) simultaneously infusing the patient with a plasma substitute at a second rate about equal to the first rate.

2. (original) The method of claim 1, wherein the specific molecular weight range is about 1 Da to about 200 kDa.

3. (original) The method of claim 2, wherein the specific molecular weight range is about 1 Da to about 150 kDa.

4. (original) The method of claim 3, wherein the specific molecular weight range is

about 1 Da to about 100 kDa.

5. (original) The method of claim 4, wherein the specific molecular weight range is about 1 Da to about 80 kDa.

6. (original) The method of claim 5, wherein the specific molecular weight range is about 1 Da to about 60 kDa.

7. (currently amended) The method of claim 1, wherein the first rate is about 1 to about ~~10~~ 20 ml/min.

8. (original) The method of claim 1, wherein the period is about 1 to about 6 hours.

9. (currently amended) The method of claim 1, wherein the plasma substitute is selected from the
group consisting of

(a) normal whole plasma from human donors;

(b) a plasma product prepared from normal whole human plasma;

(c) a synthetic product mimicking the ~~serum~~ plasma fraction containing a set of serum peptide components having a molecular weight range that is within the molecular weight range of the selected fraction; and

(d) a combination of any of (a), (b), or (c).

10.- 17. (canceled)

18. (new) The method of claim 1, wherein the plasma substitute contains a set of serum peptide components having a molecular weight range corresponding to the molecular weight range of the selected fraction.

19. (new) The method of claim 1, wherein the spinning loop of the cell separator comprises a semipermeable membrane having a nominal porosity of between 60 kDa and 200 kDa.

20. (new) A method for removing toxic substances from the blood of a patient, the method comprising:

withdrawing blood from the patient;

delivering the blood to a filtration cartridge having a porosity so as to generate an ultrafiltrate having a selected plasma fraction enriched in plasma constituents the molecular weights of which range to an upper limit of between 60 and 200 kDa ;

removing at least a portion of the ultrafiltrate;

returning the return stream to the patient; and

providing a replacement fluid containing clean target receptor molecules, to the patient,

wherein the replacement fluid contains a set of serum peptide components having a molecular weight range that is within the molecular weight range of the selected fraction.